

chloride, $C_6H_5 \cdot CHCl_2$, reacts with magnesium diphenyl in an interesting manner, forming without extraneous application of heat triphenylmethane, $(C_6H_5)_3CH$, and magnesium chloride.

NOTES from the Marine Biological Station, Plymouth.—The *Actinorocha* larva of *Phoronis* has now made its appearance in the floating fauna. The Radiolaria mentioned last week, though still present, have become much less numerous; the tow-nets have this week been crowded with *Rhizosolenia*. The Siphonophore *Muggiaea atlantica* is abundant, and the medusæ *Saphenia mirabilis* and *Amphinema Titania*, with swarms of small *Obelia*, have also been observed. The Nauplii of *Sacculina* are plentiful, and among Mollusca the larvæ of *Ægirus punctilucens* and the larva *Cirropteron semilunare* of M. Sars (possessing a four-lobed velum) have been observed. The Polyclad *Leptoplana tremellaris* is now breeding; and young metamorphosed specimens of the Opisthobranch *Oscanius membranaceus* have been taken with the dredge on the bottom.

THE additions to the Zoological Society's Gardens during the past week include a Bonnet Monkey (*Macacus sinicus*) from India, presented by Mrs. H. Leavitt; a Blau-bok (*Cephalophus pygmaeus*) from South Africa, presented by Mr. J. E. Matcham; a Yellow Baboon (*Cynocephalus babouin*) from West Africa, a Banded Gymnogene (*Polyboroides typicus*) from East Africa, a White-necked Stork (*Dissura episcopus*) from East Africa, presented by Mr. Thomas E. Remington; a European Tree Frog (*Hyla arborea*) from Europe, two Fire-bellied Toads (*Bombinator igneus*) from Europe, and a Spotted Salamander (*Salamandra maculosa*) from Europe, presented by Mr. Hood; eleven Garden Dormice (*Myoscus quercinus*) from Spain, forty-eight Glossy Ibises (*Plegadis falcinellus*) from Spain, and four Marbled Ducks (*Anas angustirostris*) from Spain, presented by Lord Lilford, F.Z.S.; a Rose-crested Cockatoo (*Cacatua moluccensis*) from Moluccas, presented by Lady Sudeley; two Ypecaha Rails (*Aramides ypecatra*) from South America, presented by Mr. F. H. Chalk, a Boa (*Boa constrictor*) from South America, and two Great Bustards (*Otis tarda*) from Spain, deposited; and a Wapiti Deer (*Cervus canadensis*) born in the Menagerie.

OUR ASTRONOMICAL COLUMN.

HONORARY DISTINCTIONS.—From the current number of *L'Astronomie* we gather that M. Janssen, director of the Observatory of Meudon, has been made a Commander of the Legion of Honour. Messrs. Callandreaux and Bigourdan, assistant-astronomers at the Paris Observatory, have received the distinctions of Officers of Public Instruction, and MM. Camille Flammarion and Jordan and Hermite, of the Institute, have received from the King of Greece the Cross of the Commander of the Order of the Saviour.

A METEOR.—An observer, writing to us from Westgate-on-Sea, gives the following account of a meteor seen there on the evening of August 27:—"At about 8.40 p.m. I saw a very brilliant meteor here. The trail, as far as I could judge, must have commenced somewhere about the star β Sagittæ, but the most brilliant part of it was accurately noted as lying between two points, one being half-way between α and γ Aquilæ and the other being about a third of the distance (from η) between η and δ of the same constellation. The meteor may be described as "rapid," and its direction of motion was south. The most striking feature of this observation was the length of time (about six minutes) the trail remained visible in the heavens, and its subsequent change of shape. At first it appeared of a bluish-white colour and was very bright, its path describing practically a straight line; but about four minutes later it had dimmed very considerably (the same colour being maintained), but the trail was no longer straight but distinctly wavy, giving one the idea that the meteoric dust particles must have encountered so near air currents travelling at right angles to its length."

A BEQUEST TO ASTRONOMY.—By the will of Mr. Arthur Leake, late of Ashby, Ross, Tasmania, a sum of £10,000 was put by for the purpose of founding a school for the practical teaching of astronomy in one of the Australian universities, colleges, or leading schools. It was stipulated that a part of such teaching should consist of lectures illustrated with diagrams and instruments, and the sum of £3000 could be spent in purchasing the necessary equipment. From the proceedings of the Royal Society of Tasmania (issue 1 June, 1893) it appears that there is a little difficulty in determining the best means of using the bequest. Mr. H. C. Russell, F.R.S., C.M.G., has drawn up a scheme for the proposed school which has much to commend it. He points out that Hobart offers special advantages of climate and position for the Leake Observatory, and suggests that £1800 should be spent in purchasing a photographic astronomical telescope, to be used for work in connection with the photographic chart. It is proposed that the University of Tasmania shall establish a school of astronomy and the observatory, and that the lecturer in mathematics and physics shall also teach astronomy, and have general control and direction of the observatory, for which he should be paid from the Leake fund £100 per annum in addition to his salary from the university. An observatory assistant is provided in the scheme with a salary of £200 per annum. The sum of £50 a year is set down for photographic plates, chemicals, &c., bringing the total annual expenditure up to £350, which is the interest on £7000 from the Leake estate. When Mr. Russell's paper was read, in August, 1892, an opinion was expressed that it was unnecessary to "import an astronomical expert in order to give the instruction in astronomy, and to superintend the observatory," and that the duties of the observer might be combined with those of the Government meteorologist. With this feeling the following resolution was passed:—"The Royal Society of Tasmania having placed itself in communication with the Council of the University with the view of formulating a scheme for securing the benefit of the Leake bequest to the colony of Tasmania, the Premier be requested to refrain from making any permanent appointment to the office of meteorologist pending the result of such conference."

GEOGRAPHICAL NOTES.

DR. NANSEN has telegraphed from Yugor Strait, at the entrance to the Kara Sea, on August 3, the message reaching the Vardö telegraph office on August 23. A good voyage had been made to Nova Zembla, the only unpleasant episodes being the occurrence of fogs and contrary winds. On the 27th ice was encountered in lat. $69^{\circ} 50' N.$, long. $50^{\circ} E.$, about ten miles north-east of the Island of Kolgueff. Dr. Nansen forced his way through the ice, the *Fram* proving a splendid ship for the purpose, and reached Yugor Strait on the 29th, making a run of 250 miles in two days. The coal-ship, which was to have been waiting at Yugor Strait, had not arrived, but having sufficient coal on board Dr. Nansen intended to sail into the Kara Sea on August 3, rather than risk delay by waiting. He took on board "thirty-four splendid sledge-dogs." Little ice was reported in the southern part of the Kara Sea, a southerly wind having driven the pack northward. If the ice does not turn out worse than reported, Nansen hoped to reach the New Siberian Islands before the end of August, and if he does so he considers success almost certain. The *Fram* will touch at the Olonetz River, near the Lena delta, if there is time, and send farther news.

THE geography of South America has recently been receiving great attention from German travellers and officials in the various South American republics. In a recent number of *Petermann's Mittheilungen*, Richard Payer describes a journey from Lima across the Andes and down the valley of the Ucayali to the Amazon. In the course of it he visited an interesting Tyrolean colony at Pozuzo, which he found in the course of extinction, after thirty years' hard struggle on the part of the colonists to maintain a footing in their remote and isolated settlement. Dr. Brakebusch has from time to time published portions of the material he has been collecting for an exhaustive account of the physical geography of the Argentine. He divides the country from the crest of the Andes to the valley of the Parana into successive zones—snowy summits and cliffs, high-level sand-dunes formed from glacial debris, scree, alpine pastures, low-level sand-dunes, salt flats, forests, and pampas.

Dr. Hettner has been at work on the Andes of Colombia, and Dr. Theodore Wolf has published a magnificent monograph (in Spanish) on the geography and geology of Ecuador, accompanied by the best map yet produced of the country. Dr. Tippenhauer has written a fine work on the physical geography of Haiti, and many other papers by German geographers have appeared within the last few months.

SIR WILLIAM MACGREGOR, for the British Government, and the officers of the Dutch war-vessel *Java*, have rectified the frontier between British and Dutch New Guinea. The former boundary was the 141st meridian, and the new boundary, where it cuts the coast, is a stream, chosen to furnish a recognisable border-line, in $141^{\circ} 1' 40''$ E. and $9^{\circ} 7' 40''$ S.

ON August 6 the new ship-canal across the Isthmus of Corinth was formally opened, thus completing a plan which was projected by Periadros about 600 B.C., and actually commenced by Nero, who was, however, compelled to abandon the work, in 68 A.D. The canal is not quite four mile-long, and will effect a saving of 120 miles in the passage from the Adriatic to the *Ægean*. Two new towns have been planned at the entrances to the canal, which will be named Poseidonia and Isthmia.

MR. F. C. SELOUS, the recognised authority on the exploration of Mashonaland, has been induced to return there at very short notice, on account of the threatening attitude of the powerful Matabele chief, Lo Bengula, and the consequent risk of interruption in the development of the country. An important work on Mashonaland, by Mr. Selous, will be published immediately.

MR. R. M. W. SWAN, who, with Mr. Theodore Bent, surveyed the ruins of Zimbabwe, is at present engaged in a systematic survey of other groups of ruins in South Africa, and he reports the discovery of a temple on the Limpopo, "oriented" to the setting sun at the solstice.

MR. W. H. COZENS HARDY, the Oxford geographical scholar, is now engaged in carrying out his explorations in Eastern Montenegro, one of the least known parts of Europe. The work of his predecessor, Mr. Grundy, on the Battlefield of Platæa, is on the point of publication as a supplementary paper of the Royal Geographical Society.

THE BEAVER CREEK METEORITE.

SOME of the readers of NATURE will no doubt be interested in a short account of a meteoric fall which occurred recently in British Columbia, and was noted in these columns on August 10. For the circumstances in connection with the fall, and the finding of fragments of the meteorite, I am indebted to Mr. James Hislop—a former student of this University, and a most trustworthy observer—and also to a letter by Mr. E. L. McNair in the *Spokane Review* of June 2.

Both gentlemen were members of a party of engineers engaged upon a survey for the Nelson and Fort Sheppard Railway Company on Beaver Creek, about eleven miles north and five miles east of where the Columbia crosses the international boundary line. About four o'clock on the afternoon of May 26 a series of sharp reports was heard, following one another in quick succession, and apparently occupying in all about half a minute. The first report was quite loud and sharp, and each succeeding one less so, as if coming from a greater distance. Following the reports was a whizzing sound, such as might be supposed to be produced by a body moving rapidly through the air.

At the time of the "explosion" a man named Gerling was walking along the Beaver Creek trail. At first he thought that the noise was thunder, but the whizzing sound puzzled him, and on looking upward to see if he could tell whence it came, it grew louder and louder until a stone struck the ground not far from where he stood. He searched for it, but without success, as the place was thickly overgrown with bushes.

Some distance from this a fragment fell within fifty feet of a man named Edward McLeod. It buried itself in the earth, but was dug out, and found to weigh four or five pounds. On the following day (May 27), in the course of his topographical work, Mr. Hislop came upon a freshly-made hole in the ground into which the loose earth had fallen, and on following it down to a depth of three feet from the surface a portion of the meteorite weighing about twenty-five pounds was discovered. The hole made an angle of 58° with the horizontal, and its course showed that the mass had come in a direction $S. 60^{\circ} E.$ (true meridian),

The writer is indebted to Mr. Hislop for a portion of this mass, and a preliminary examination fully establishes its meteoric character.

The fresh fracture is light grey in colour and harsh to the touch, the crust being brown and dull. The chondritic character is distinctly seen without a lens, though the "chondra" are mostly under a millimetre in diameter. Examination of a thin section with the microscope showed the presence of olivine, enstatite, iron, troilite, and chromite (?). The iron is present in the form of little shining grains and strings. On treatment with hydrochloric acid the powder gelatinises readily (olivine) and evolves hydrogen sulphide. By means of an ordinary horse-shoe magnet some of the powder was separated into a magnetic and a non-magnetic portion. The former amounted to about 23.5 per cent. of the whole, and consisted mainly of nickel-iron, which, however, carried with it a portion of the other constituents.

A partial analysis of the magnetic material gave:—

Iron	...	...	...	...	78.72
Nickel (including cobalt)	...	...	...	...	6.87
Insoluble in hydrochloric acid	...	...	...	...	10.04
Soluble silica	...	...	...	...	1.46
Magnesia, &c., by difference	...	...	...	...	2.91

100.00

If all the iron and nickel present be regarded as nickel iron, the percentage of nickel (with cobalt) is 8.73. No doubt, however, a little of the iron was derived from olivine and possibly from troilite.

The writer hopes to publish before long the results of a less hurried and more detailed examination of the specimen in his possession. B. J. HARRINGTON.

SPANGOLITE, A REMARKABLE CORNISH MINERAL.

AMONG the valuable Cornish minerals from the Williams collection which have recently been acquired by the trustees of the British Museum¹ is one specimen which deserves immediate notice, since it proves to be a recently discovered mineral of which only one other example is known to exist, and that from a foreign country.

The mineral belongs to the fine series of copper ores from the St. Day mines, which are chiefly arsenates and phosphates, and among these, while it exceeds the remainder in scientific interest, it is inferior to none in beauty.

The specimen, about the size of a hen's egg, consists of a granular gossany quartz carrying on both sides a little massive cuprite, which is covered and replaced by greenish alteration products—chrysocolla, malachite, liroconite, and clinoclase—together with a little chessylite; especially conspicuous being the bright green crystals of liroconite and indigo-blue groups of clinoclase.

But among these, dispersed upon both sides of the specimen, are numerous brilliant and translucent crystals of a deep emerald-green colour, which at once strike the eye as something unusual. Their form is a hexagonal prism terminated by an acute hexagonal pyramid having the apex truncated by a single bright plane; and one cannot call to mind any other mineral having precisely this habit.

A minute group of crystals was detached and examined by Mr. Prior and myself with the following result:—The mineral belongs to the rhombohedral system, the pyramid angle being $53^{\circ} 7'$; it has a perfect basal cleavage; it is uniaxial, the birefringence being strong and negative; the specific gravity, determined by suspending a fragment in solution of cadmium borotungstate (Rohrbach's solution), is 3.07; it is insoluble in water, but readily soluble in acids; and is found to be a hydrated sulphate and chloride of copper and aluminium. This indicates a very remarkable and unusual composition, but the presence of both aluminium and chlorine is quite unmistakable.

In all the above characters the substance is identical with spangolite, a new copper mineral which was described by Mr. S. L. Penfield in 1890 (*American Journal of Science*, 39, p. 370).

The resemblance between the two specimens extends even to the circumstances of their discovery; the original spangolite

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